

# **WASHINGTON STATE AVIATION PAVEMENT MANAGEMENT PROGRAM**

## **SCOPE OF WORK**

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## **WASHINGTON STATE AVIATION PAVEMENT MANAGEMENT PROGRAM**

### ***SCOPE OF WORK DEFINITIONS***

WSDOT - References the Washington State Department of Transportation Aviation Division.

Consultant - References the prime consultant on the project.

FAA - References the Federal Aviation Administration Seattle Airports District Office.

Project Team - References the team members within the WSDOT, FAA and the Consultant.

The coordination of state and federal funding for the Scope of Work is predicated on the receipt of federal funds.

### **PROGRAM OVERVIEW**

The principal objective for developing a statewide pavement maintenance management program is to assess the relative condition of pavements at selected Washington State airports. Such a program should develop accurate pavement inventories, identify necessary maintenance and repair projects, and recommend funding priorities.

The primary function of the Washington State Aviation Pavement Management Program is to serve as a tool in identifying system deficiencies, state programming decisions for the Local Airport Aid program, Legislative decision making, and the planning needs of local jurisdictions. Secondly, the Program will serve airport sponsors and the FAA in meeting pavement management compliance requirements.

### **TASK 1      SYSTEM PAVEMENT INVENTORY AND DATA COLLECTION**

In the early 1990's, WSDOT participated in the collection of Pavement Condition Index information at select airports in the Washington State Aviation System. The information was collected by several individuals utilizing several different reporting styles. During the 1997/98 Airport Data Condition Assessment, the

pavement condition indices (PCI) were found to be significantly out of date and numerous evaluations were found to contain reporting errors. This fact was substantiated by the United States General Accounting Office (GAO) Status Assessment of the Nation's Airport Pavements which found only one-third of the data consistent with reporting needs.

While the validity of pavement condition data collected in the early 1990's is in question, the historic summaries of pavement maintenance activities are relatively accurate. Therefore, the focus of data collection by the consultant will be to assess the validity of the previous data, and to collect new pavement condition data to effectively establish a baseline analysis.

The airports in the Washington State Aviation Pavement Management Program include all the public use facilities in Washington, with the exception of those primary airport facilities which have the technical capability and staff to manage their respective pavement programs.

It is important to note that the role of the state, as an advocate to airports, is not to supplant the role of the airport sponsor. It is not the role of the WSDOT to serve in an enforcement capacity nor is it the role of the WSDOT to bring an airport into compliance with state or federal requirements. That role is reserved for the airport sponsor. The role of the WSDOT is to identify the pavement needs and recommended process of preserving the pavements within the State Aviation System. The cities, counties and port districts, through the appropriate airport boards provide the key policy and financial decisions necessary for preserving airport pavements in Washington State.

#### **Task 1.1 Study Design**

The airports to be included in the scope of the project consist of commercial service, reliever and general aviation airports. Primary airports are not included in this scope of work. Based upon this information, the consultant will identify final work products and prepare a final project schedule.

#### **Task 1.2 Records Review**

The consultant will obtain the most recent airport layout plan or drawing, therein, for each selected airport site. The consultant will conduct a review of the previous pavement condition reports to obtain relevant information. As well, the consultant will gather data on pavement design, construction and maintenance history from WSDOT, FAA and local airport sponsors. Using AutoCAD, the consultant will develop drawings for each selected airport identifying all pavement boundaries (runway, taxiway and apron), dimensions,

cross-sections, dates of construction or most recent major rehabilitation, and surface type.

### **Task 1.3      Network Definition**

Based upon information developed during the Records Review, the consultant will divide each airport pavement network into branches, sections and sample units as identified in FAA Advisory Circular AC 150/5380-6, Guidelines and Procedures for Maintenance of Airport Pavements. In conjunction with the project team, the consultant will develop a naming protocol for branches and sections at the selected airport sites in Washington State. Further, the consultant will show branch, section and sample unit locations in relation to the airport layout plans, where applicable.

### **Task 1.4      Visual Condition Survey**

The consultant will visually inspect all pavement at the selected airport sites in accordance with FAA Advisory Circular 150/5380-6 Guidelines and Procedures for Maintenance of Airport Pavements and ASTM D 5340-93, Standard Test Method for Airport Pavement Condition Index Surveys. The consultant will calculate the Pavement Condition Index (PCI) for each sample unit as well as an average PCI and associated Pavement Condition Rating (PCR) for each pavement section at the selected airports.

The consultant will develop a CAD pavement layout plan showing the Pavement Condition Rating for each pavement section at the selected airports. Further, in conjunction with the project team, the consultant will develop a form to assist the WSDOT and the airport sponsor in conducting drive-by inspections. The forms will assist the WSDOT and the FAA in maintaining adequate information regarding pavement maintenance management.

## **TASK 2      MICROPAVER DATABASE**

### **Task 2.1      MicroPAVER Pavement Maintenance Management Software Implementation**

The Aviation Pavement Management Program will be supported by the implementation of the MicroPAVER Pavement Maintenance Management Software. MicroPAVER is the recommended pavement management software identified in FAA Advisory Circular 150/5380-7 Pavement Management System.

#### **Task 2.1.1 Development of System Parameters**

The consultant, in conjunction with the project team, will develop specific parameters to be used by MicroPAVER for assessing maintenance and repair needs.

#### **Task 2.1.2 MicroPAVER Data Input for Individual Sites**

The consultant will input pavement history and visual condition survey (pavement condition) data into a MicroPAVER database established for each selected airport site.

#### **Task 2.1.3 Database Merger**

The consultant will create a collective database combining all data from the selected airport databases.

#### **Task 2.1.4 Development of MicroPAVER Reports for Individual Sites**

The consultant will develop MicroPAVER reports, as appropriate, for each selected airport site and for the statewide airport pavement management system. The reports will outline the recommended maintenance activities for each selected site and the statewide Aviation Pavement Management Program.

#### **Task 2.1.5 Database and ArcCAD/ArcView Link Creation**

The consultant will create a link between the databases for the selected airports and the ArcCAD/ArcView GIS system for visual display of the pavement related data.

#### **Task 2.1.6 MicroPAVER USER Training**

The consultant will provide training to WSDOT for use of the MicroPAVER software.

### **TASK 3 PROJECT PRIORITIZATION**

#### **Task 3.1 Five Year Project Prioritization for Individual Sites**

The consultant will develop a recommended five (5) year project prioritization list for each selected airport. The list will identify the pavement repair needs and budget requirements to support those repairs. Decisions regarding the actual implementation of the recommended projects will be made by the airport sponsor or local jurisdiction.

**Task 3.2      Five Year Project Prioritization for Statewide Aviation Pavement Management Program**

The consultant will develop a recommend five (5) year project prioritization list identifying pavement repair needs and the associated implementation budgets for the statewide Aviation Pavement Management Program.

**TASK 4          PAVEMENT MANAGEMENT PROGRAM COMPENDIUM**

**Task 4.1      Pavement Management Manuals**

The consultant will develop a pavement maintenance management manual for WSDOT which will be provided to each selected airport and the project team.

**Task 4.2      Pavement Inspection Report for Individual Sites**

The consultant will provide an inspection report for each selected airport identifying the distress type, severity, and extent observed for each sample unit.

**Task 4.3      Pavement Maintenance Recommendations for Individual Sites**

The consultant will develop and provide to each sponsor a report which describes the study purpose, data collected, a documentation of the pavement condition, and an identification of a recommended pavement maintenance and repair plan.

**TASK 5          PROJECT MANAGEMENT**

**Task 5.1      Project Team Meetings**

The consultant will provide the project team with key project issues and process elements through project team meetings. The frequency of the project team meetings will be determined by the consultant or the project team if a need is present. The project team meetings will not exceed 10 meetings over the course of the project.



## Task 5.2 Preparation of Monthly Status Reports

The consultant will include in each monthly billing a detail overview noting work accomplished during the billing period, work to date, issues resolved, percentages of work complete and the work remaining on the project. In compliance with state requirements, the consultant will provide detailed information documenting the amounts paid to MBE/WBE firms and the work accomplish during the billing period and work accomplished to date.

Further, the consultant will provide a breakdown of costs for work during the billing period, work to date, percentages complete, in comparison to the approved budget and detailed according to task and subtask. The consultant will also provide a breakdown of cost associated with the task budget, FAA share, 10% match, total participating (90% FAA + 10% State), and non-participating (100% State).